

nearly vertically truncated, flat; A. system small, covered by plates, decreasing uniformly towards opening. Lateral fasciole running obliquely to ambitus from the middle of the anterior ambulacra towards posterior extremity; posterior extremity of actinal plastron lost in rounded posterior edge of test; tuberculation within peripetalous fasciole coarse, closely packed in all the I spaces, except the odd one. Long. 65; lat. 57; alt. 36 millim.

Habitat, East Australian coast, generally both within and outside tropics. I have seen a well authenticated specimen from Port Jackson.

SALMACIS BICOLOR, *Agassiz*.

In the list of the Echini of Australia, at p. 161, there is a description of the genus *Salmacis*. At the head of the page the name of *Salmacis bicolor* has been omitted, to which the subsequent description, beginning at the first line, refers.

The Fishes of Port Darwin.

By WILLIAM MACLEAY, F.L.S.

The collection of Fishes made for me at Port Darwin by Mr. Spalding during the last six months numbers about 120 species. It is interesting not only as regards the new species—21 in number—which it contains, and the many additions which it makes to the Australian Fauna of other previously known species, but also in the light which it throws on the geographical distribution of the Fishes of the Indian and Pacific Oceans. Almost all the species mentioned by Sir John Richardson as having been received from Port Essington nearly 40 years ago, seem to be found also at Port Darwin, and it is evident that the affinity of the Fish Fauna of North-Western Australia is much more to that of the Dutch East Indian Archipelago than to that of Torres Straits and North-Eastern Australia, which partake more of the

Polynesian character. As I am anxious to avoid swelling out this paper to an unnecessary bulk, I shall not give all the synonyms and references to each individual species I may require to notice. I think it will be sufficient to give references only to such well-known works as "Cuvier's and Valenciennes's Histoire Naturelle des Poissons," Gunther's "Catalogue of the Fishes in the British Museum," and Dr. Bleeker's "Atlas Ichthyologique des Ind. Or. Nederl." These are books which no ichthyologist should be without; indeed Gunther's Catalogue is absolutely indispensable to any one engaged in the study of Fishes.

FAMILY PERCIDAE.

1.—PSEUDOLATES CAVIFRONS.

All. and Maccl. Proc. Linn. Soc., N. S. W., Vol. I., p. 262, pl. III.

There are several specimens of this fish—one 30 inches long, the rest small. They were all taken in salt water, but I have little doubt that like its congener *Lates nobilis*, Cuv. and Val., it enters rivers.

2.—LATES DARWINIENSIS, N. SP.

D. 7 $\frac{1}{11}$, A. $\frac{3}{8}$, L. lat. 60.

Body compressed, narrow; height one-fourth of the total length, head one-third of the same; mouth moderate; forehead narrow between the eyes, the space being much less than half the diameter of the orbit; operculum with one acute spine visible; coracoid with four denticulations; praeoperculum serrated on the posterior edge and armed with a large flat acute spine at the angle, and with three small teeth pointing backwards on the lower limb; the third dorsal spine is much the largest; the anal spines are all small; the fins, with the exception of the base of the pectorals, are nearly black, and are mostly covered with small scales, the soft dorsal most distinctly so on its lower half; the coloration is dark on the back and silvery yellow beneath.

I have only one specimen 9 inches long, and in bad condition. It was found dead near the sea.

3.—*SERRANUS MERRA*, Bl.

Cuv. & Val. Poiss., Vol. II, p. 243.

Serranus hexagonatus, Gunth. Cat. Fish., Vol. I, p. 141, Var. B. Merra.

Epinephelus Merra, Bleek. Atl. Ichthyol. des Ind. Or. Nederl., p. 55, Perc. Tab. 23, fig. 2.

Dr. Bleeker says that this species is identical with *S. faveatus*, *trimaculatus* and *nigriceps* of Cuvier and Valenciennes.

4.—*SERRANUS FUSCOGUTTATUS*, Rupp.

Gunth. Cat. Fish., Vol. I, p. 127.

Epinephelus fuscoguttatus, Bleek. Atl. Ichthyol. des Ind. Or. Nederl., p. 57, Perc. Tab. 29, fig. 3.

Identical with *S. horridus*, C. and V.

5.—*SERRANUS CRAPAO*, C. & V.

Hist. Nat. des Poiss., Vol. III, p. 364; Gunth. Cat. Fish., Vol. 1, p. 137.

Epinephelus pantherinus, Bleek. Atl. Ichthyol. des Ind. Or. Nederl., p. 61, Perc. Tab. 8, fig. 1.

Dr. Bleeker makes this species identical with Cuvier and Valenciennes's species *pantherinus*, *maculosus*, *bontoo*, and *suillus*.

6. *SERRANUS CORALLICOLA*, C. & V.

Hist. Nat. des Poiss., Vol. II, p. 251.

Serranus altiveloides, Bleek. Gunth. Cat. Fish.; Vol. I, p. 127.

Epinephelus corallicola, Bleek. Atl. Ichthyol. des Ind. Or. Nederl., p. 53, Perc. Tab. 30, fig. 1.

7.—*SERRANUS PACHYCENTRUM*.

Cuv. and Val. Hist. Nat. des Poiss., Vol. II, p. 219; Gunth. Cat. Fish., Vol. I, p. 116.

My only specimen is about six inches long.

8.—*DIPLOPRION BIFASCIATUM*.

Cuv. and Val. Hist. Nat. des Poiss. vol. II, p. 101, pl. 21; Gunth. Cat. Fish., Vol. I, p. 174; Bleek. Atl. Ichthyol. des Ind. Or. Nederl., p. 71, Perc. Tab., 68, fig. 3.

Only one specimen.

9.—MYRIODON WAIGIENSIS, Q. and G.

Gunth. Cat. Fish., Vol. I, p. 175.

Centropristes scorpaenoides, Cuv. and Val. Hist. Nat. des Poissons, Vol. III, p. 36.

Centrogenys waigiensis, Bleek. Atl. Ichthyol. des Ind. Or. Nederl., p. 68, Perc. Tab. 19, fig. 1, (not good).

This fish seems to be very abundant about Port Darwin.

10.—MESOPRION CARPONOTATUS.

Rich. Ann. and Mag. Nat. Hist., 1842, Vol. IX, p. 28. Gunth. Cat. Fish., Vol. I, p. 190.

11.—MESOPRION JOHNII.

Cuv. and Val. Hist. Nat. des Poiss., Vol. II, p. 335; Gunth. Cat. Fish., Vol. I, p. 200.

Lutjanus johni. Bleek. Atl. Ichthyol. des Ind. Or. Nederl., p. 49, Perc. Tab. 60, fig. 3. Dr. Bleeker merges in this species the *unimaculatus*, *flavipinnis*, *yapilli*, and *caudalis* of Cavier and Valenciennes, and also puts down the *Serranus pavo* of C. and V., and Gunther as the young of the species.

It seems abundant about Port Darwin.

12.—APOGON RUPPELLII.

Gunth. Cat. Fish., Vol. I, p. 236, pl. 15, fig. 8.

Apparently not an uncommon species.

13.—APOGON OPERCULARIS, N. SP.

D. 7 $\frac{1}{9}$, A. 2/8, L. lat. 29. Pl. VII., fig. 1.

Height of body one-third, and length of head more than one-fourth of the total length; head broad, flat, and slightly arched between the eyes; the maxillary bone extends to below the posterior half of the orbit; præoperculum very finely serrated; third dorsal spine rather longer and stronger than the fourth; second anal spine long but not quite so large as the rays; scales very large; color dull vinous red with the fins, except the pectorals, more or less black; there

is a black mark extending from beneath the orbit to the angle of the præoperculum, and on the operculum there is a margaritaceous patch with a black patch above it.

I have many specimens of this fish, averaging nearly 4 inches in length.

14.—*APOGON HYALOSOMA*, *Blkr.*

Gunth. Cat. Fish., Vol. I, p. 231 ; Bleek. Atl. Ichthyol. des Ind. Or. Nederl., p. 96, Perc. Tab., 31, fig. 1.

15.—*APOGONICHTHYS POLYSTIGMA*, *Blkr.*

Gunth. Cat. Fish., Vol. I, p. 246 ; Bleek. Atl. Ichthyol. des Ind. Or. Nederl., p. 181, Perc. Tab., 44, fig. 4.

16.—*THERAPON SERVUS*.

Cuv. and Val. Hist. Nat. Poiss., Vol. III, p. 94 ; Gunth. Cat. Fish., Vol. I, p. 278.

Therapon jarbua, Bleek. Atl. Ichthyol. des Ind. Or. Nederl., p. 112, Perc. Tab. 34, fig. 32.

17.—*THERAPON CUVIERI*, *Blkr.*

Gunth. Cat. Fish., Vol. I, p. 282 ; Bleek. Atl. Ichthyol. des Ind. Or. Nederl., p. 117, Perc. Tab. 37, fig. 2.

Identical with *Therapon quadrilineatus*, C. and V., and *Pelates sexlineatus*, *quadrilineatus* and *quinquelineatus*, of the same authors.

My specimens are all young.

18.—*THERAPON CAUDOVITTATUS*.

Richards. Voy. Ereb. and Terr., Fishes. p. 24, pl. 18, fig. 3-5 ; Gunth. Cat. Fish., p. 284.

19.—*HELOTES SEXLINEATUS*.

Cuv. and Val. Hist. Nat. des Poiss., Vol. III., p. 112, pl. 56 ; Gunth. Cat. Fish., p. 285 ; Bleek. Atl. Ichthyol. des Ind. Or. Nederl., p. 118, Perc. Tab. 64, fig. 5.

Two specimens, 7 inches long.

20.—*PRISTIPOMA HASTA*.

Cuv. and Val. Hist. Nat. des Poiss., Vol. V, p. 184 ; Gunth. Cat. Fish., Vol. I, p. 289.

Pomadasys hasta, Bleek. Atl. Ichthyol. des Ind. Or. Nederl., p. 28; Perc. Tab. 47, fig. 3.

Identical with *P. Kakaan*, *commersoni* and *chrysobalion* of Cuv. and Val.

21.—*DIAGRAMMA MULTIVITTATUM*, N. SP., Pl. VII, fig. 2.

D. 12/20, A. 3/7, L. lat. about 65.

Height of body $2\frac{1}{2}$ in the total length, length of head $3\frac{1}{2}$ times in the same; diameter of eye one-fourth of length of head; lips fleshy with six pores beneath; maxillary bone not reaching the vertical from the anterior margin of the orbit; præoperculum densely denticulated behind; caudal fin slightly emarginate; fins spotless, spinous dorsal yellowish at the base, soft dorsal and anal darker and scaly, the 2nd and 3rd anal spines strong and of equal length; colour bluish silvery, becoming yellowish beneath the head and thorax. There are three or four irregular, longitudinal, pale, dark-edged stripes on the side of the head, and eighteen or twenty indistinct, subparallel yellowish stripes extending from the head and thorax obliquely backwards and upwards to the dorsal fin and back of the tail.

Two specimens, about 11 inches long.

The affinity of this fish is evidently to *D. hæmatochir*, or *polytaenia*, Bleeker, but it is very distinct from both. In colouring it appears to approach *D. chrysotaenia*, Bleeker, but in other respects it differs more from that species than from *D. polytaenia*.

22.—*SCOLOPSIS PERSONATUS*.

Cuv. and Val. Hist. Nat. des Poiss., Vol. V, p. 259; Gunth. Cat. Fish., Vol. I, p. 360; Bleek. Atl. Ichthyol. des Ind. Or. Nederl. Spar., p. 9, Perc. Tab. 63, fig. 4.

23.—*SCOLOPSIS LONGULUS*, Rich.

Ann. and Mag. Nat. Hist., IX, 1842, p. 380; Gunth. Cat. Fish., Vol. I, p. 363.

Apparently common. The specimens vary from 8 to 3 inches in length.

24.—*GERRES PUNCTATUS*.

Cuv. and Val. Hist. Nat. des Poiss., Vol. VI, p. 480; Gunth. Cat. Fish., Vol. I, p. 260.

I am not at all satisfied of the identity of this species. The descriptions of it are poor and unfortunately it is not figured in Bleeker's splendid atlas.

25.—*GERRES PROFUNDUS*, N. SP., Pl. VII, fig. 3.

D. 9/10, A. 3/7, L. lat. 42.

This is the deepest shaped *Gerres* I have seen. The height of the body is one half the length without the caudal fin; the forehead between the eyes is flat, depressed, and less than the diameter of the orbit; first dorsal spine very small, the third is longer than the second and is $2\frac{1}{2}$ times in the height of the body; the second and third anal spines are about equal; caudal fins broad and furcate; the pectorals reach to the commencement of the anal rays; colour bright silvery, a faint spotted band along the middle of the dorsal fin.

Two specimens 7 inches long.

Family MULLIDÆ.

26.—*UPENEOIDES TRAGULA*.

Richards Ichth. Chin., p. 220; Gunth. Cat. Fish., Vol. I, p. 398.

I have some doubts about this species. My specimen is 5 inches long.

Family SPARIDÆ.

27.—*LETHRINUS FUSCICEPS*, N. SP. Pl. VIII, fig. 1.

D. 10/9, A. 3/8, L. lat. 47.

Height one-third of total length; profile straight; two diameters of the orbit between the eye and the muzzle, and rather more than four diameters in the length of the head; mouth narrow; teeth conical with two distinct canines in the lower jaw; tail emarginate; dorsal spines rather slender,

the connecting membrane opaque and yellowish at the base ; scales uniformly yellowish ; head brown and without scales except on the operculum and a single row behind the eye.

One specimen 9 inches long, and of a very compressed aspect.

28.—*LETHRINUS PUNCTULATUS*, N. SP. Pl. VIII, fig. 2.

D. 10/9, A. 3/8, L. lat. 45.

Height of body rather over one-third of total length ; profile straight ; snout about $1\frac{1}{2}$ diameter of the orbit from the eye ; teeth sharply conical, canines small ; dorsal fin rather high, the 4th, 5th, and 6th spines longest ; tail slightly emarginate ; 3rd anal spine longer and weaker than the 2nd, and shorter than the rays ; 2nd ray of pectoral reaches to the commencement of the anal ; dorsal and anal fins indistinctly clouded or spotted with black, the other fins immaculate and of a blackish hue ; general colour dark with a black patch between the pectoral fin and the lateral line, and a series of vertical patches of black, formed of clusters of small spots, along the entire length of the body. I have a number of specimens of this species averaging from 5 to 6 inches in length. Some of them are of a much paler appearance than the one I have selected for description, but they are all evidently of the same species, and do not answer to any of those described by Gunther or figured by Bleeker.

29.—*CHRYSOPHRYS HASTA*, Bl.

Chrysophrys longispinis, Cuv. and Val. Hist. Nat. des Poiss., Vol. VI, p. 116.

Chrysophrys hasta, Gunth. Cat. Fish., Vol. I, p. 490.

Sparus hasta, Bleek. Atl. Ichthyol. des Ind. Or. Nederl. Perc. Tab. 67, fig. 3.

Family CHÆTODONTIDÆ.

30.—*CHÆTODON OLIGACANTHUS*, Blkr.

Gunth. Cat. Fish., Vol. II, p. 34.

A number of small specimens under two inches long.

31.—*CHÆTODON AUREOFASCIATUS*, N. SP., Pl. VIII, fig. 3.

D. 11/21, A. 3/16, L. lat. 40.

Height of body equal to the length without caudal fin ; snout short ; mouth very small ; dorsal and anal fins rounded behind, the last four dorsal spines almost entirely hidden by scales ; colour brownish yellow, with a golden band from the commencement of the dorsal fin through the eye to the breast, and another from near the back along the posterior edge of the operculum and through the base of the pectorals to the belly. Length 5 inches.

I have a number of very small specimens, perhaps the young of this species, but they are much darker in colour, and have a double band across the root of the tail.

31.—CHELMO ROSTRATUS, *L.*

Cuv. and Val. Hist. Nat. des Poiss. VII, p. 66 ; Gunth. Cat. Fish., Vol. II, p. 36 ; Bleek. Atl. Ichthyol. des Ind. Or. Nederl. Chaetod. Tab. VII, fig. 2.

32.—CHELMO MARGINALIS, *Richards.*

Ann. and Mag. Nat. Hist., 1842, Vol. X, p. 29 ; Gunt. Cat. Fish., Vol. II, p. 36.

Apparently very abundant about Port Darwin and very distinct from *C. rostratus*.

33.—HENIOCHUS MACROLEPIDOTUS, *L.*

Cuv. and Val. Hist. Nat. des Poiss. VII, p. 70 ; Gunth. Cat. Fish., Vol. II, p. 39.

Taurichthys macrolepidotus, Bleek. Atl. Ichthyol. des Ind. Or. Nederl. Chaetod. Tab. V, fig. 1.

34.—HOLACANTHUS SEXSTRIATUS.

Cuv. and Val. Hist. Nat. des Poiss. VII, p. 145 ; Gunth. Cat. Fish., Vol. II, p. 49 ; Bleek. Atl. Ichthyol. des Ind. Or. Nederl. Chaetod., Tab. X, fig. 2.

35.—HOLACANTHUS DUBOULAYI, *Gunth.*

Ann. and Mag. Nat. Hist., 3rd Series, Vol. XX, p. 67.

I have four specimens of this beautiful fish, the largest about eight inches long. The yellow reticulations on the brown part

of the body vary much ; in one specimen they run longitudinally, in two others they form a network on the anterior portion, and one is reticulated throughout.

36.—SCATOPHAGUS MULTIFASCIATUS.

Richards. Voy. Ereb. and Terr., p. 57, pl. 35, fig. 4-6 ; Gunth. Cat. Fish., Vol. II, p. 60.

37.—SCATOPHAGUS TETRACANTHUS, *Lacep.*

Gunth. Cat. Fish., Vol. II, p. 60.

Scatophagus fasciatus, Cuv. and Val. Hist. Nat. des Poiss. VII, p. 109.

38.—DREPANE PUNCTATA, *L.*

Cuv. and Val. Hist. Nat. des Poiss. VII, p. 99, pl. 179 ; Gunth. Cat. Fish., Vol. II, p. 62.

Harporchirus punctatus, Bleek. Atl. Ichthyol. des Ind. Or. Nederl. Chætod., Tab. III, fig. 4.

39.—PLATAX ORBICULARIS, *Forsk.*

Cuv. and Val. Hist. Nat. des Poiss. VII, p. 174 ; Gunth. Cat. Fish. Vol. II, p. 490.

40.—PSETTUS ARGENTEUS, *L.*

Richards. Voy. Ereb. and Terr., Fishes, p. 57, pl. 35, fig. 1-3
Gunth. Cat. Fish., Vol. II, p. 488.

Psettus rhombeus, Cuv. and Val. Hist. Nat. des Poiss. VII, p. 184.

FAMILY SCORPAENIDAE.

41.—SCORPAENA BYNOENSIS, *Richards.*

Voy. Ereb. and Terror, Fishes, p. 22, pl. 14, figs. 3-4 ; Gunth. Cat. Fish., Vol. II, p. 113.

Abundant, averaging 6 inches in length.

42.—SCORPAENA DIABOLUS, *C. & V.*

Cuv. and Val. Hist. Nat. des Poiss. IV., p. 229 ; Gunth. Cat. Fish., Vol. II, p. 117.

FAMILY TEUTHIDIDAE.

43.—TEUTHIS NOTOSTICTUS.

Richards. Ann. and Mag. Nat. Hist., 1853, Vol. XI., p. 172
Gunth. Cat. Fish., Vol. III, p. 320.

FAMILY BERYCIDAE.

44.—HOLOCENTRUM RUBRUM, *Rupp.*

Gunth. Cat. Fish., Vol. I, p. 35 ; Bleek. Atl. Ichthyol. des Ind. Or. Nederl. Trachyen., Tab. III, fig. 4.

Holocentrum orientale, Cuv. and Val., Vol. III, p. 147.

„ *marginatum*, C. and V., Vol. III, p. 161.

FAMILY POLYNEMIDAE.

45.—POLYNEMUS CECUS. N. SP., Pl. IX, fig. 1.

D. 7 $\frac{1}{14}$, A. 2/15, L. lat. 83.

Four pectoral appendages, the lowest little more than half the length of the others, and all shorter than the pectoral fin ; anal spines scarcely visible, colour silvery, becoming darker towards the back ; all the rays of the pectoral and caudal fins tipped with black, the latter long and much forked ; a dense subopaque membrane covers each side of the head, through which the eyes are dimly traceable.

I have two specimens of this remarkable fish, each about 18 inches in length. Apart from the eye covering mentioned above, a peculiarity I have not seen mentioned as having been observed in any of the genus—this fish differs in many respects from the descriptions of *P. tetradactylus*, the only species to which it can be compared.

FAMILY TRICHIURIDAE.

46.—TRICHIURUS SAVALA, *Cuv.*

Cuv. and Val. Hist. Nat. des Pois. VIII, p. 184, pl. 224 ; Gunth. Cat. Fish., Vol. II, p. 347.

My only specimen of this beautiful fish is about 30 inches in length.

FAMILY ACRONURIDAE.

47.—ACANTHURUS GRAMMOPTILUS.

Richards. Ann. and Mag. Nat. Hist., 1842, Vol. XI., p. 176 ; Gunth. Cat. Fish., Vol. III, p. 335.

FAMILY CARANGIDÆ.

48.—CARANX HIPPOS, *L.*

Gunth. Cat. Fish., Vol. II, p. 449, and Gunth. Fisch. des Sudsee, Journ. Mus. Godef, Heft, V, p. 131, Taf. LXXXIV.

Caranx paraspistes; Richards. Ichth. Voy. Ereb. and Terr., p. 136, pl. 58, fig. 5-7, and synonymous according to Dr. Gunther with *C. fallax*, *sem*, *Fosteri*, *sexfasciatus*, *Peronii*, *Lessonii*, and *Belengerii* of Cuv. and Val. Hist. Nat. des Poiss., Vol. IX.

This species seems to be abundant. I have them of all sizes.

49.—CHORINEMUS LYSAN, *Forsk.*

Gunth. Cat. Fish., Vol. II, p. 471.

Chorinemus Fosteri, Richards. Ann. and Mag. Nat. Hist., 1843, Vol. XI, p. 24, and said to be identical with *C. commersonianus*, *lyzan*, *Farkharii*, and *aculeatus* of Cuv. and Val. Hist. Nat. des Poissons, Vol. VIII.

FAMILY TRACHINIDÆ.

50.—OPISTHOGNATHUS DARWINIENSIS, *N. SP.* Pl. IX, fig. 3.

D. 28, A. 15.

Height one-fourth of total length; maxillary reaching nearly to the præopercular angle; space between the eyes not more than one-third of the diameter of the orbit; colour yellowish, closely spotted with brown; a large oval black spot between the 3rd and 7th spines of the dorsal fin; the rest of the fin, as also the anals, ventrals and caudal, yellow with black bars; pectorals finely spotted.

This species is evidently very distinct from *O. nigromarginatus*, Rupp, the *O. Sonneratii* of Cuv. and Val., described as being in height only one-sixth of the length, in having only 24 rays or spines to the dorsal, and in having a remarkable black band on the maxillaries, in all which it differs from the present species.

FAMILY BATRACHIDÆ.

51.—BATRACHUS DIEMENSIS, *Les.*

Richards. Ann. and Mag. Nat. Hist. Vol. X, p. 352, and Voy., Ereb. and Terr., p. 17, pl. 8, figs. 1, 2. Gunth. Cat. Fish., Vol. III p. 170.

Batrachus quadrispinis, Cuv. and Val., Vol. XII, p. 487.
Seemingly very numerous.

FAMILY PEDICULATI.

52.—ANTENNARIES UROPHthalmus, *Bleek*.

Gunth. Cat. Fish., Vol. III, p. 192.

Chironectes caudimaculatus, Richards. Voy. Ereb. and Terr., p. 125, pl. 60, figs. 8, 9.

A very common species.

53.—ANTENNARIUS COMMERSONI.

Cuv. and Val., Vol. XII, p. 426 ; Gunth. Cat. Fish., Vol. III, p. 192, and Journ. Mus. Godef.

FAMILY COTTINA.

54.—PLATYCEPHALUS INOPS, *Jenyns*.

Zool. of the Beagle, Fishes, p. 33 ; Gunth Cat. Fish., Vol. II, p. 180.

55.—PLATYCEPHALUS NEMATOPHTHALMUS.

Gunth. Cat. Fish., Vol. II, p. 184.

I have two specimens, the largest over a foot in length, of what I believe to be this species, but I only make out 7 dorsal spines instead of 8 as described.

FAMILY GOBIIDÆ.

56.—GOBIUS ORNATUS, *Rupp*.

Gunth. Cat. Fish., Vol. III, p. 21.

Identical with *ventralis*, C. & V., *interstinctus*, Richards., and *periophthalmoides*, Bleek.

57.—GOBIUS GIURIS, *Buch*.

Gunth. Cat. Fish., Vol. III, p. 21.

Said to be the same as *G. Kokius*, *Russellii*, *catebus*, *Kora*, and *celebicus* of Cuv. and Val.

58.—GOBIUS CRINIGER.

Cuv. and Val. Hist. Nat. des Poiss., Vol. XII, p. 82 ; Richards. Ichth. Voy. Ereb. and Terr., p. 2, pl. 1, figs. 3, 4 ; Gunth. Cat. Fish., Vol. III, p. 29.

59.—*Gobius maxillaris*, n. sp. Pl. IX, fig. 2.

D. 6/11, A. 1/9.

Height of body nearly five times in the total length; length of head nearly one-third of the same; mouth large, the under jaw longest, the maxillary reaching nearly to the angle of the præoperculum; eyes lateral but very close together; spinous dorsal higher than the body; the first spine much the longest; the general colour is a pale reddish or yellowish brown, with a few indistinct crossbars of a deeper brown; the fins have a blackish tinge but are without spots; the opercles are dotted with minute spots.

Length about $2\frac{1}{2}$ inches.

60.—*Gobius albopunctatus*.

Cuv. and Val. Hist. Nat. des Poiss., Vol. XII, p. 57; Gunth. Cat. Fish., Vol. III, p. 25.

61.—*Apocryptes bivittatus*, n. sp. Pl. IX, fig. 5.

D. 6/18, A. 16.

Height one-fourth of the total length; length of head one-fifth of same; snout short, about the diameter of the orbit from the eye; mouth nearly horizontal; maxillary reaching to the anterior third of the eye; tail rather pointed; dorsal fins nearly continuous; two canines in the lower jaw curved and horizontal; space between the eyes flat and wider than the orbit; colour yellowish with a dark vitta from the muzzle through the eye and continued more or less distinctly to the back near the tail, and another from the lower jaw through the root of the pectoral fin to the root of the tail; the fins are unspotted but the dorsal and anal are slightly washed with black. Some specimens are obscurely marked with transverse bands.

Length about 4 inches.

62.—*Gobiosoma guttulatum*, n. sp. Pl. IX, fig. 6.

D. 5/26, A. 25.

Height one-twelfth of the total length; head one-seventh of the same; head rounded in front; eyes small, superior and not their diameter apart; mouth horizontal; teeth acute;

those in the upper jaw longer for the most part than those of the lower; on each side beneath the mandibles a row of about eight minute pointed fleshy appendages, skin without scales, but closely covered with minute papillæ. The general colour is of a pale lead hue, with minute and very distant spots of brown on the side of the head, pectoral fins, upper part of the side and back, and on the soft dorsal. There are also 3 or 4 narrow, short, transverse blue or black bands on each side. The first dorsal has the third spine elongate, and all extremely weak; its colour is darkish, the other fins are yellowish; the soft dorsal and anal very low, and the caudal long, pointed, and with about three narrow bars of brown.

The average length of this curious looking fish is about 3 inches.

63.—PERIOPHTHALMUS KOELREUTERI, *Valent.*

Gunth. Cat. Fish., Vol. III, p. 97.

I have this fish of all colours and sizes. I believe also that I have a new species among the Port Darwin things, but the specimens seem to be very immature.

ELEOTRIS COMPRESSUS, N. SP., Pl. IX, fig. 7.

D. 7 $\frac{1}{8}$, A. $\frac{1}{10}$, L. lat. about 30.

Height one-fourth of total length; of compressed form; mouth small, subvertical; eyes half the diameter of the orbit from the maxillary, and three diameters apart; the first dorsal terminating in filaments, and scarcely so high as the second dorsal; tail not pointed; colour pale reddish brown, the soft dorsal and caudal fins minutely spotted, anal fin black edged. Length over 3 inches.

The short, deep, compressed form makes this fish look very unlike an *Eleotris*.

FAMILY BLENNIIDAE.

65.—SALALIAS SPALDINGI, N. SP., Pl. IX, fig. 4.

D. $\frac{12}{20}$, A. 21.

Height of body about one-sixth of the total length; head vertical in front, with a long, skinny crest on the occiput and

a single fine tentacle over each eye; dorsal fin quite continuous and *without any notch*; the first few rays of the anal fin prolonged into filaments; colour greenish yellow, with more or less distinct double vertical brown bands over the whole body and with the dorsal fin spotted with brown.

Many specimens averaging three inches in length. The straight, unnotched dorsal fin will at once enable this fish to be distinguished from *S. biseriatus*, Cuv. and Val., and *S. geminatus*, All. and Maccl., both of them species which in other respects much resemble the present one.

66.—NOTOGRAPTUS GUTTATUS.

Gunth. Ann. and Mag. Nat. Hist., 1867, Series III, Vol. XX, p. 64.

I have two specimens of this curious fish, about four inches long. I would add to Dr. Gunther's description, that there is a small skinny flap at the extremity of the upper lip, and that the spots on the head have a narrow white ring round them.

FAMILY TRICHONOTIDAE.

67.—TRICHONOTUS SETIGERUS, *Bleek*.

Cuv. and Val. Hist. Nat. des Poiss., Vol. XII, p. 316; Gunth. Cat. Fish., Vol. III, p. 484.

I have several specimens of this fish 7 inches in length. It differs somewhat from the descriptions of the species inasmuch as there are no brown blotches on the back.

FAMILY SPHYRAENIDAE.

68.—SPHYRAENA LANGSAR, *Bleek*.

Gunth. Cat. Fish., Vol. II, p. 340.

I have a number of this species averaging 5 inches in length.

FAMILY MUGILIDAE.

69.—MUGIL WAIGIENSIS, *Q. & G.*

Gunth. Cat. Fish., Vol. III, p. 435.

Synonymous with *M. macrolepidotus* and *melanochir* of Cuv. and Val.

70.—MUGIL PERONII.

Cuv. and Val., Vol. XI, p. 138 ; Gunth. Cat. Fish., Vol. III, p. 452.

71.—MUGIL DOBULA.

Gunth. Cat. Fish., Vol. III, p. 420.

72.—AGONOSTOMA DARWINIENSE, N. SP., Pl. IX, fig. 8.

D. 5 $\frac{1}{8}$, A. 7, L. lat. 36.

Broad and depressed towards the head, compressed towards the tail ; height of body at the root of the pectorals about equal to the width and $4\frac{1}{2}$ in the total length. Length of head $3\frac{1}{2}$ in the same ; forehead broad ; lips rather thin, the maxillary extending to the vertical from the middle of the eye ; gape slightly descending, the lower jaw rather the longest ; teeth small and numerous ; tail rounded, with numerous small clear spots, and with the outer rays white tipped ; the soft dorsal and anal fins have the terminal rays longest ; the first of them is spotted like the caudal, and has the rays tipped with white ; the anal is without spots and is tipped with yellow ; the general colour is blackish, but many of the scales of the sides have pearly centres ; the abdomen is yellow ; a large broad anal papilla. Average length 8 inches.

Apparently a common fish. I am not confident that I am right in referring it to *Agonostoma*.

FAMILY POMACENTRIDAE.

73.—AMPHIPRION TRICOLOR.

Gunth. Cat. Fish., Vol. IV, p. 8.

74.—AMPHIPRION CLARKII, *Benn.*

Cuv. and Val. Hist. Nat. des Poiss. IX, p. 504 ; Gunth. Cat. Fish., Vol. IV, p. 5.

75.—AMPHIPRION BICINCTUS, *Rupp.*

Cuv. and Val. Hist. Nat. des Poiss. IX, p. 505 ; Gunth. Cat. Fish., Vol. IV, p. 8.

76.—AMPHIPRION MELANOPUS, *Bleek.*

Gunth. Cat. Fish., Vol. IV, p. 8.

77.—*AMPHIPRION BICOLOR*, *Casteln.*

Proc. Zool. Soc., Vict., Vol. 2, p. 92.

One specimen about two inches in length.

78.—*DASYLLUS FASCIATUS*, *N. SP.*, Pl. X, fig. 2.

D. 13/13, A. 2/13, L. lat. 24.

Height one-half the length without caudal fin; form compressed; body and fins blackish yellow, the first with five rather indistinct vertical black bands, the first on the head the last on the tail; the dorsal fin, which is without notch, is clouded and blotched with black. Length about 2 inches.

A single specimen.

79.—*POMACENTRUS SCOLOPSIS*, *Q. & G.*

Gunth. Cat. Fish., Vol. IV., p. 28.

Pomacentrus taeniops, Cuv. and Val. Hist. Nat. des Poiss. V, p. 423.

80.—*POMACENTRUS LITTORALIS*, *K. & H.*

Cuv. and Val. Hist. Nat. des Poiss. V, p. 425; Gunth. Cat. Fish., Vol. IV, p. 32.

P. pristiger, Cuv. and Val., Vol. IX, p. 506.

81.—*POMACENTRUS BANKANENSIS*, *Blkr.*

Gunth. Cat. Fish., Vol. IV, p. 26.

In all my specimens there are two blue dots on each scale, so that in referring them to this species I may be wrong.

82.—*GLYPHIDODON COELESTINUS*.

Cuv. and Val. Hist. Nat. des Poiss., Vol. V, p. 464, and Vol. IX, p. 508; Gunth. Cat. Fish., Vol. IV, p. 38.

Glyphidodon rapti, Cuv. and Val., Vol. V, p. 456, and Vol. IX, p. 507, Cont., &c., &c.

FAMILY LABRIDAE.

83.—*CHÆROPS CYANODON*, *Richards.*

Ann. and Mag. Nat. Hist., 1843, Vol. XI, p. 355, and Voy. Ereb. and Terr., Fish., p. 131, pl. 55, f. 5-7; Gunth. Cat. Fish., Vol. IV, p. 96; All. and MacL. Proc. Linn. Soc., N. S. Wales, Vol. I, p. 244.

84.—*CHÆROPS NOTATUS*, *All. & MacL.*

Proc. Linn. Soc., N. S. Wales, Vol. I, p. 344, pl. 16, fig. 1.

85.—*CHÆROPS SCHÖNHINII*, *Blkr.*

Atl. Ichthyol. des Ind. Or. Nederl., p. 163, Labrid. Tab. 46, fig. 1.

86.—*PLATYGLOSSUS DUSSUMIERI*.

Cuv. and Val., Vol. XIII, p. 478, pl. 387; Gunth. Cat. Fish., Vol. IV, p. 143.

Halichaeres nigrescens, Bleek. Atl. Ichthyol., p. 118, Tab. 37, fig. 4.

87.—*PLATYGLOSSUS IMMACULATUS*, N. SP., Pl. X, fig. 1.

D. 9/12, A. 3/12, L. lat. 26.

My only specimen of this, a clearly undescribed species, is under three inches in length and of a compressed form. The height of the body is one-fourth the entire length, the snout is one diameter of the orbit from the eye, and the mouth is very protractile. The colour seems to be a perfectly uniform yellowish brown, and the fins are without spot or mark of any kind.

FAMILY OPHIDIDAE.

88.—*CONGROGADUS SUBDUCENS*, *Rich.*

Gunth. Cat. Fish., Vol. IV, p. 388.

Machaerium subducens, Richards. Ann. and Mag. Nat. Hist., 1843, Vol. VII, p. 175, pl. 6, and Voy. Ereb. and Terr., Fish., p. 72, pl. 44, figs. 1-6.

Several specimens over a foot in length.

FAMILY PLEURONECTIDAE.

89.—*PSEUDORHOMBUS RUSSELLII*.

Gunth. Cat. Fish., Vol. IV, p. 424; Bleek. Atl. Ichthyol., Vol. VI, p. 9, Tab. 233, fig. 2.

A species of very wide range.

90.—*PLAGUSIA GUTTATA*, N. SP. Pl. X, fig. 3.

Dorsal rays about 100; no nostril visible; height of body one-fourth of total length; rostral hook extending beyond the lower

eye; three lateral lines on the left side; colour pale brownish yellow, with very many small whitish spots.

Several specimens from 3 to 4 inches long. Probably young.

91.—*SYNAPTURA SCLEROLEPIS*, N. SP. Pl. X, fig. 4.

D. 88, A. 75.

Pectoral fin minute on the blind side; none on the other; the height of the body is more than one-third of the total length; scales densely ciliated and very rough; colour brownish yellow with numerous specks and spots of dark brown.

One specimen 7 inches long.

FAMILY SILURIDÆ.

92.—*ARIUS THALASSINUS*, *Rupp.*

Gunth. Cat. Fish., Vol. V, p. 139.

Arius nasutus, Cuv. and Val., Vol. XV, p. 60.

Netuma thalassina, Bleek. Atl. Ichth. Silur., p. 28, tab. XIII.

93.—*CNIDOGLANIS MEGASTOMA*, *Rich.*

Gunth. Cat. Fish., Vol. V, p. 27.

Plotosus megastomus, Richards. Voy. Ereb. and Terr., Fish., p. 31, pl. 21, figs. 1-3.

94.—*PLOTOSUS ANGUILLARIS*, *Bl.*

Gunth. Cat. Fish., Vol. V, p. 24.

Plotosus lineatus, and *castaneus*, Cuv. and Val., Vol. XV, p. 412 and 421.

Plotosus arab, Bleek. Atl. Ichth. Silur., p. 98, tab. 95, fig. 2.

FAMILY SCOMBRESOCIDÆ.

95.—*BELONE MELANOTUS*, *Bleek.*

Gunth. Cat. Fish., Vol. VI, p. 238; Bleek. Atl. Ichth. Scombr., p. 47, tab. 10, fig. 2.

96.—*BELONE CAUDIMACULATA*, *C. & V.*

Cuv. and Val., Vol. XVIII, p. 452; Gunth. Cat. Fish., Vol. VI, p. 245.

Mastacambelus strongylurus, Bleek. Atl. Ichth. Scombr., p. 45, tab. X, fig. 3.

97.—HEMIRHAMPUS AMBLYURUS, *Bleek.*

Gunth. Cat. Fish., Vol. VI, p. 273.

Zenarchopterus amblyurus, *Bleek. Atl. Ichth. Scombres.*, p. 61, tab. IV, fig. 1.

98.—ARRHAMPUS SCLEROLEPIS.

Gunth. Cat. Fish., Vol. VI, p. 277.

Several specimens from 6 to 8 inches in length.

FAMILY CLUPEIDÆ.

99.—CLUPEA TEMBANG, *Bleek.*

Gunth. Cat. Fish., Vol. VII, p. 426.

Clupea gibbosa, *Bleek. Atl. Ichth. Clup.*, p. 106, tab. VIII, fig. 6.

100.—MEGALOPS CYPRINOIDES, *Brouss.*

Gunth. Cat. Fish., Vol. VII, p. 471; *Bleek. Atl. Ichth. Clup.* p. 87, tab. XII, fig. 4.

FAMILY MURÆNIDÆ.

Of this family there are two species in the collection, one evidently an *Ophichthys*, and the other a *Moringua*. There is but a single specimen of each, and these are so hardened and distorted that I am unable to make out the species.

FAMILY SYGNATHIDÆ

101.—ICHTHYOCAMPUS ANNULATUS, N. SP. Pl. X, fig. 6.

D. 14, osseous rings 16, 29.

Snout four times as long as the diameter of the eye and a little curved downwards; a small occipital ridge, a short opercular ridge; height of body little more than the width and one-fiftieth of the total length; body and tail quadrangular, the angles strongly marked; the lateral line strongly ridged and running into the lower ridge of the tail; a well-marked ventral ridge extending to the vent; pectoral and caudal fins small but distinct; tail nearly twice the length of the body, quadrangular and tapering; the egg pouches on each side of the ventral face of the tail, extend from the vent over about 12 of

the caudal rings, and form 17 divisions; the colour is dark brown or almost black, with a number of more or less distinct whittings rings less numerous than the osseous rings; the fins are spotted. Length about 12 inches.

I have three specimens of this curious little fish; the fully developed egg pouch of the male shows that they have attained their full size.

FAMILY SCLERODERMI.

102.—*MONACANTHUS CHINENSIS*, *Bl.*

Gunth. Cat. Fish., Vol. VIII, p. 236; Bleek. Atl. Ichthyol., Vol. V, p. 125, tab. 222, fig. 2.

103.—*OSTRACION CUBICUS*.

Gunth. Cat. Fish., Vol. VIII, p. 260.

Ostracion tetragonus, Bleek. Atl. Ichth. Ostrac., p. 39, tab. 1, fig. 2, and tab. 3, fig. 2.

FAMILY GYMNODONTES.

104.—*TETRODON VIRGATUS*, *Rich.*

Voy. Ereb. and Terr. Fish., p. 62, pl. 39, figs. 8, 9; Gunth. Cat. Fish., Vol. VIII, p. 291.

Crayracion manillensis, Bleek. Atl. Ichth. Gymnod., p. 69, pl. 4, fig. 2.

This species is placed by Dr. Gunther as a variety of *T. immaculata*, Bloch. I believe it to be quite distinct.

105.—*TETRODON PATOCA*, *Ham.*

Gunth. Cat. Fish., Vol. VIII, p. 288.

Leiodon patoca, Bleek. Atl. Ichth. Gymnod., p. 76, tab. 6, fig. 2.

106.—*TETRODON FASCIATUS*, *N. SP.* Pl. X, fig. 5.

Head and body from the eyes to the pectoral fins broad and flat; the nostrils between and rather in front of the eyes with two openings on each side opposite one another, and in a prominent papilla; from behind the eyes to opposite the middle of the pectorals the flat upper surface is densely covered with small two rooted spines; the ventral surface from the chin to the vent is similarly armed; the sides and back are of a blueish colour, and

the under surface yellow, with a rather sharp line of demarcation ; a broad black band extends between the eyes, another broader across the back between the pectorals, a third across the back at the dorsal fin, and a fourth on the back of the tail.

This species judging from the number in the collection, must be very common at Port Darwin. They average about 4 inches in length.

107.—*DIODON MACULATUS*, *Lacep.*

Gunth. Cat. Fish., Vol. VIII, p. 307.

Paradiodon novemmaculatus, Bleek. Atl. Ichth. Gymnod., p. 57, tab. 2, fig. 3.

Paradiodon quadrimaculatus, Bleek. Atl. Ichth. Gymnod., p. 58, tab. 8, fig. 2.

FAMILY CARCHARIDÆ.

108.—*CARCHARIAS HEMIODON*, *Müll.*

Gunth. Cat. Fish., Vol. VIII, p. 362.

I have two specimens of what I take to be this shark ; a large one with the tips of all the fins quite black, and a small one without any trace of such marking.

FAMILY SCYLLIIDÆ.

109.—*SCYLLIUM MACULATUM*, *Bl.*

Gunth. Cat. Fish., Vol. VIII, p. 401.

FAMILY RHINOBATIDÆ.

110.—*RHINOBATUS GRANULATUS*, *Bl.*

Gunth. Cat. Fish., Vol. VIII, p. 443.

A young specimen.

FAMILY TRYGONIDÆ.

111.—*TRYGON UARNAK*, *Forsk.*

Gunth. Cat. Fish., Vol. VIII, p. 473.

My only specimen is without any trace of a spine on the tail, and yet in every other respect it answers exactly to the descriptions given of the species.

112.—*TRYGON PASTINACA*, *L.*

Gunth. Cat. Fish., Vol. VIII, p. 478.

EXPLANATION OF PLATES.

PLATE VII.

1. *Apogon opercularis*, nat. size.
2. *Diagramma multivittatum*, $\frac{1}{3}$ nat. size.
3. *Gerres profundus*, $\frac{1}{2}$ nat. size.

PLATE VIII.

1. *Lethrinus fusciceps*, under $\frac{1}{2}$ nat. size.
2. *Lethrinus punctulatus*, $\frac{2}{3}$ nat. size.
3. *Chætodon aureifasciatus*, $\frac{3}{5}$ nat. size.

PLATE IX.

1. *Polynemus cæcus*, $\frac{1}{3}$ nat. size.
2. *Gobius maxillaris*, nat. size.
3. *Opisthognathus Darwiniensis*, $\frac{1}{3}$ nat. size.
4. *Salarias Spaldingi*, nat. size.
5. *Apocryptus bivittatus*, nat. size.
6. *Gobiosoma guttulatum*, nat. size.
7. *Eleotris compressus*, nat. size.
8. *Agonostoma Darwiniense*, $\frac{2}{5}$ nat. size.

PLATE X.

1. *Platyglossus immaculatus*, $\frac{2}{3}$ nat. size.
 2. *Dascyllus fasciatus*, nat. size.
 3. *Plagusia guttata*, nat. size.
 4. *Synaptura selerolepis*, $\frac{1}{2}$ nat. size.
 5. *Tetrodon fasciatus*, $\frac{3}{4}$ nat. size.
 6. *Ichthyocampus annulatus*, $\frac{3}{4}$ nat. size.
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